The selection of essential medicines for reproductive health

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October 2005
Essential medicines

- The concept of essential medicines

A limited range of carefully selected essential medicines leads to better health care, better drug management, and lower costs

- Definition of essential medicines

Essential medicines are those that satisfy the priority health care needs of the population

(Report to WHO Executive Board, January 2002)
History of the WHO Model List of Essential Drugs

- 1977 First Model list published, ± 200 active substances
- List is revised every two years by WHO Expert Committee
- 2002 Revised procedures approved by WHO
- Last revision (March 2005) contains 306 active substances

The first list was a major breakthrough in the history of medicine, pharmacy and public health

Médecins sans Frontières, 2000
Full description of essential drugs (Expert Committee Report, April 2002)

**Definition:** Essential medicines are those that satisfy the priority health care needs of the population

**Selection criteria:** Essential medicines are selected with due regard to disease prevalence, evidence on efficacy and safety, and comparative cost-effectiveness

**Purpose:** Essential medicines are intended to be available within the context of functioning health systems at all times, in adequate amounts, in the appropriate dosage forms, with assured quality, and at a price the individual and the community can afford.

**Implementation:** The implementation of the concept of essential medicines is intended to be flexible and adaptable to many different situations; exactly which medicines are regarded as essential remains a national responsibility.
Clinical guidelines and a list of essential medicines lead to better prevention and care.
The Essential Medicines Target

- All the drugs in the world
- Registered medicines
- National list of essential medicines
- Levels of use
- Supplementary specialist medicines
- Private sector
- CHW (Community Health Worker) dispensary
- Health center
- Hospital
- Referral hospital

Selection
Use of the WHO Model List of Essential Drugs

- **156 countries** have a national list of essential drugs, of which 81% have been updated in the last 5 years.

- Major international **agencies** (UNICEF, UNHCR, IDA) base their catalogue on the WHO Model List.

- **Sub-sets**: UN list of recommended essential drugs for emergency relief (85 drugs); interagency New Emergency Health Kit (55 drugs for 10,000 consultations).

- **Normative tools**: WHO Model Formulary, International Pharmacopoea, Basic Quality Tests, and development of reference standards follow the WHO Model List.
Example of challenge:
New essential drugs are expensive

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotics for gonorrhoea</td>
<td>50-90x price of penicillins</td>
</tr>
<tr>
<td>Antimalarial drugs:</td>
<td>chloroquine $0.10 per treatment</td>
</tr>
<tr>
<td></td>
<td>coartem® $3/pp developing country (30x)</td>
</tr>
<tr>
<td></td>
<td>malarone® $40 per dose (400x)</td>
</tr>
<tr>
<td>Antituberculosis:</td>
<td>$11 for DOTS vs $250 for MDR (25x)</td>
</tr>
<tr>
<td>Antiretrovirals:</td>
<td>$300/year; but 38 countries with a drug budget &lt;$2 pp/year</td>
</tr>
</tbody>
</table>
Model process (1):
Seven steps to get a new medicine on the WHO Model List of Essential Drugs

1. Identification of public-health need for a medicine
2. Development of the medicine; phase I - II - III trials
3. Regulatory approval in a number of countries
   > Effective and safe medicine on the market
4. More experience under different field circumstances; post-marketing surveillance
5. Price indication for public sector use
6. Review by WHO disease programme; define comparative effectiveness and safety in real-life situations, comparative cost-effectiveness and public health relevance
   > Medicine included in WHO treatment guideline
7. Submission to WHO Expert Committee on Essential Drugs
   > Medicine included in WHO Model List
Model process (2):
Link to Guidelines for Guidelines
(approved by WHO Cabinet in January 2001)

Systematic and transparent process

- Guideline development group with wide representation
- Careful consideration of conflict of interest
- Systematic computer search for evidence
- Evaluation of strength of evidence
- Systematic cost-effectiveness analysis
- for WHO: evaluation of public health considerations
- Graded recommendations with linked references
- External review of draft recommendations
- If there is insufficient evidence: consensus expert opinion
WHO Essential Medicines Library
Combining information from various partners

WHO Model List

- Reasons for inclusion
- Systematic reviews
- Key references

WHO Clusters

Clinical guideline

Summary of clinical guideline

WHO/EDM

BNF

WHO/Model Formulary

WHO/EC, Cochrane

WHO/QSM

MSH

UNICEF

MSF

Cost:
- per unit
- per treatment
- per month
- per case prevented

Statistics:
- ATC
- DDD

WHO Model Formulary

Quality information:
- Basic quality tests
- Intern. Pharmacopoea
- Reference standards

WCCs Oslo/Uppsala

Selection
Number of countries with a national list of essential medicines

156 countries with EDLS
1/3 within 2 years
3/4 within 5 years
Time series: Inclusion of zidovudine in 19 of 112 national lists reviewed

Added to the WHO EML
The New Emergency Health Kit

Essential medicines and supplies for 10,000 people for three months

Consensus between WHO, UNICEF, UNHCR, UNFPA, Red Cross, MSF, OXFAM, missions, IDA
The perfect onion: Selection of emergency relief items

WHO Model List 2002
UN List of Emergency Relief Items
New Emergency Health Kit 1998
Adaptation needed: ORS, antimalarials, syringes, emergency contraception
The not-so-perfect onion:
Essential medicines for Reproductive Health:
Discrepancies in international RH lists (2003)

316 on WHO Model List
75 on UNFPA List
150 on Interagency RH medical commodities

194
63
65
24
5
7

Department of Essential Drugs and Medicines Policy
First comparison between lists (1):
Seems to have been forgotten on R

<table>
<thead>
<tr>
<th>Medication</th>
<th>U</th>
<th>R</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanol</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>hydrochlorothiazide*</td>
<td>x</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>norethisterone enantate</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>retinol</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

*furosemide on R

U= UNFPA list; R=Interagency list; E= WHO Model List
First comparison between lists (2):
Alternative medicine preferred on WHO EML

<table>
<thead>
<tr>
<th>Drug</th>
<th>U</th>
<th>R</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>clotrimazole</td>
<td></td>
<td>x</td>
<td>miconazole</td>
</tr>
<tr>
<td>zalcitabine, delavirdine, amprenavir</td>
<td></td>
<td>x</td>
<td>see ARV guide</td>
</tr>
<tr>
<td>dephenylhydramine</td>
<td></td>
<td>x</td>
<td>promethazine</td>
</tr>
<tr>
<td>itraconazole, ketoconazole</td>
<td></td>
<td>x</td>
<td>fluconazole</td>
</tr>
<tr>
<td>labetalol</td>
<td></td>
<td>x</td>
<td>atenolol</td>
</tr>
<tr>
<td>magnesium trisilicate, sodium citrate</td>
<td></td>
<td>x</td>
<td>alum.hydroxide</td>
</tr>
<tr>
<td>tinidazole</td>
<td></td>
<td>x</td>
<td>metronidazole</td>
</tr>
<tr>
<td>ritodrine, terbutaline</td>
<td></td>
<td>x</td>
<td>salbutamol</td>
</tr>
<tr>
<td>methylergometrine</td>
<td></td>
<td>x</td>
<td>ergometrine</td>
</tr>
</tbody>
</table>
First comparison between lists (3):
(Recently) deleted from the Model List

<table>
<thead>
<tr>
<th>Drug</th>
<th>U</th>
<th>R</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spermicidies (removed in 2003)</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contraceptive foams/gels</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Pethidine (removed in 2003)</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Iron dextran (removed in 2003)</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Misoprostol (added in 2005)</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
To include or not to include?

Need for systematic review and submission to WHO Expert Committee 2005

<table>
<thead>
<tr>
<th>Medicine</th>
<th>U</th>
<th>R</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>levonorgestrel-IUDs</td>
<td>x</td>
<td></td>
<td>no</td>
</tr>
<tr>
<td>norethisterone enantate + valerate</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>oestradiol cypionate + med.prog.acetate</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>indometacin (tocolytic)</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cefazolin (geneal surgical prophylaxis)</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cefixime (gonorhoea)</td>
<td>x</td>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>prostaglandins</td>
<td>x</td>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>subdermal contraceptive inplants</td>
<td>x</td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>
Essential Medicines for Reproductive Health: Current status of joint review project

1. Annotated list all WHO resource materials and standard treatment guidelines for RH medicines; link with essential medicines list(s); discrepancies identified
2. Summary of available Cochrane reviews and other evidence for all RH medicines
3. List of medicines for which additional evidence is needed; reviews performed and submitted to 14th Expert Committee

Next steps: International consensus on essential RH medicines; standardization of essential non-drug RH items; guideline for inclusion of RH items in national lists of essential medicines